

T.33 SPIDER

Induction, airflow, and beauty – all unforced.

11,100

RPM

1,108

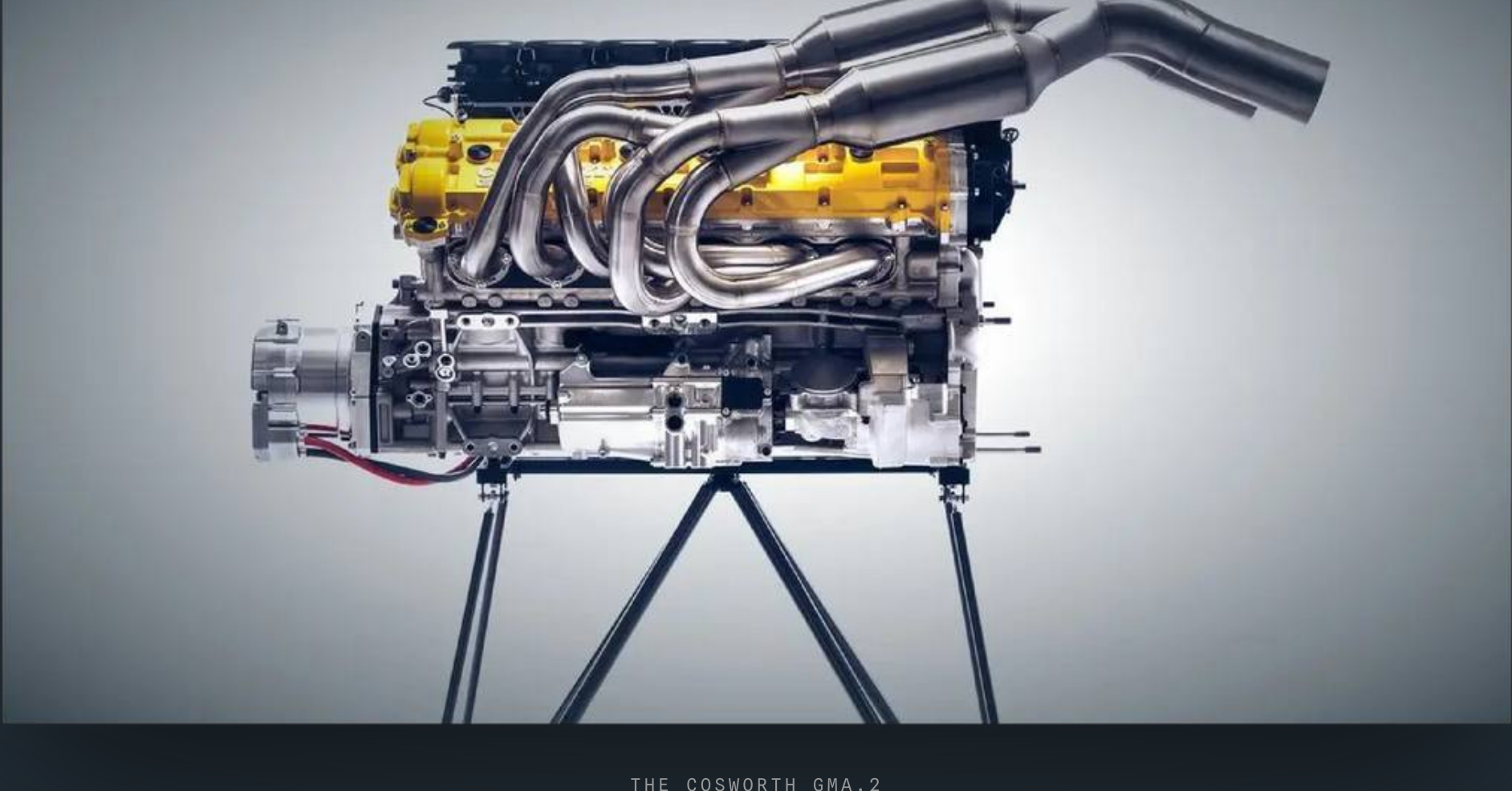
KG DRY

617

PS

557

PS PER TONNE



THE COSWORTH GMA.2

Four throttle bodies at the intake · Inconel manifolds tracing the exit · 11,100 rpm of atmospheric demand

THE ENGINE

A brief of lightness and revs.

In 2017 Murray took the brief to Cosworth, whose V8 had powered Grand Prix winners for the better part of two decades, and asked for a naturally aspirated V12 lighter and higher-revving than anything yet built for the road. He has said there was a short silence in the room once he named the figures. Then they built it.

The result shares not a single part with any other engine. Its ancillaries are turned by gears rather than belts, machined for lightness and left in plain sight, so the block, the heads, and the manifolds stand uncluttered. Murray wanted a modern reading of the small, characterful V12s of the 1960s. He got 178 kilogrammes of it.

In the T.33 it is the GMA.2, the same architecture tuned for the road: 3,994 cubic centimetres, a sixty-five degree vee, fourteen to one compression, 617 PS, and a ceiling at 11,100. That ceiling is a question of kinematics, the geometry of twelve pistons, each reversing direction 370 times a second, without tearing the aluminium apart. The answer was titanium, forged into connecting rods light enough to carry the reciprocating loads.

Nothing forces the charge in. A ram scoop feeds four throttle bodies, the intake pressure rising with road speed to pack each cylinder fuller, the volumetric work done by motion, and as the spent gas leaves through the Inconel manifolds its trailing low pressure helps draw the next charge down. Three-quarters of the torque stands ready at 2,500 rpm, so the response carries almost none of the hysteresis a turbocharger sets between the foot and the engine. The needle answers at once.

THE WEIGHT

Won by what it does without.

Murray has spent a career taking things out. For three decades the supercar grew heavier with each generation, gaining turbochargers and motors and screens and the structure to carry all of it, until weight stopped being a thing engineers fought and quietly became a thing they merely managed. He refused.

The T.33 Spider weighs 1,108 kilogrammes dry, with no turbocharger to carry, no hybrid battery, no motor, and none of the mass the rest of the field has come to treat as simply unavoidable. The discipline is ascetic, a steady refusal of anything that has not earned its place, and less mass is less inertia, less of the car resisting each change of direction the driver asks of it.

Underneath sits an iStream carbon monocoque, torsionally stiff, holding its shape against the twist that 617 PS would work into a softer structure. The driveshafts are gun-drilled hollow. The pedals are machined back until only the metal that carries load remains. Five hundred and fifty-seven PS to the tonne is a figure won mostly by what the car does without.



Pedals machined back to the load path

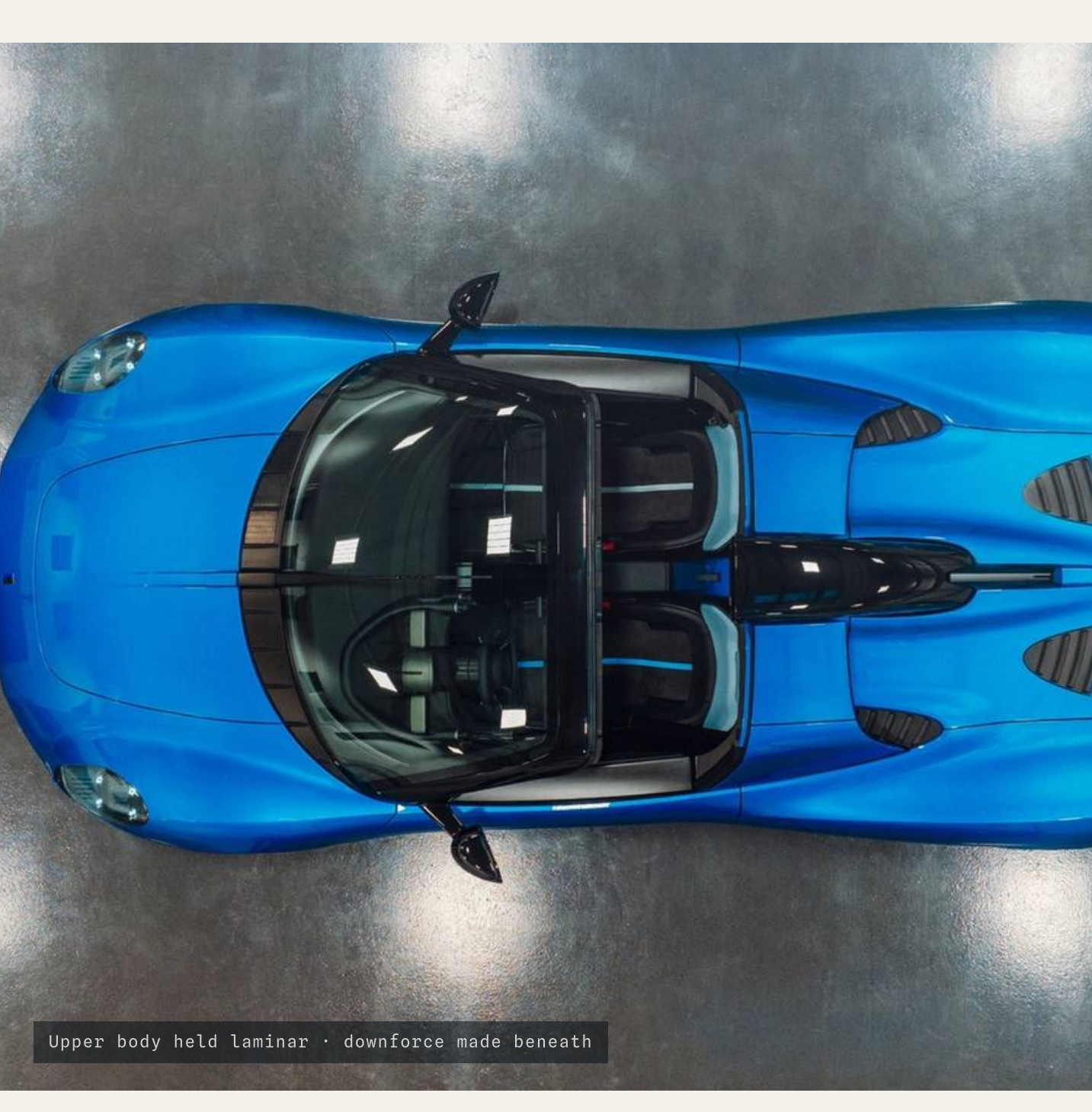
THE AIR

Downforce beneath. Laminar above.

Murray does not care for wings. The downforce here is made underneath, by the shape of the floor and a pair of diffusers that quicken the air running below the car so the higher pressure standing above it has something firm to press down upon, while over the upper body that same air is held laminar, moving in clean parallel layers rather than tumbling into turbulence.

A passive arrangement at the rear holds the fast underfloor flow attached at the precise point where it would otherwise separate and be lost. There is an active rear element. There is a brake-boost mode. The principle is older and quieter than a wing: shape the air, do not fight it.

At 150 miles an hour the floor holds the car down with 150 kilogrammes it does not carry at rest, and at 208 that figure is 312. The driver feels none of it. The road takes all of it.



Upper body held laminar · downforce made beneath



Open gate, analogue counter, carbon wheel

THE OPEN CAR

Open by design. 18 kilogrammes by discipline.

The Spider was a convertible from the first sketch, not a coupe with the roof cut away after the fact. Two panels lift out by hand and stow in the car, and a window deploys behind the seats. Take the coupe as the datum, the fixed reference against which the open car is measured, and the Spider deviates from it by 18 kilogrammes, no more, with nothing structural given up to the open sky.

Inside, two seats and a clear bias towards the one driving. The gearbox is an Xtrac six-speed, worked by hand through an open gate, every shift a deliberate metal-on-metal detent felt in the palm, and a single analogue rev counter, flood-lit, 120 millimetres across, answers in front of the wheel. The steering reaches the hands with little attenuation, the texture of the road arriving close to undimmed, so what the front tyres are doing comes through with real fidelity.

Development belonged to Dario Franchitti, four-time IndyCar champion and the company's test driver. When the sister T.50 was signed off, it was not on a circuit. It was a cold, cloudy day on British roads. The Spider was honed the same way.

SPECIFICATION

The figures. Except one.

Every figure traced to the Gordon Murray Automotive T.33 Spider technical specification and launch release.

ENGINE	Cosworth GMA.2 V12 · 65° · 3,994 cc · naturally aspirated · dry sump · aluminium block and heads · gear-driven cams · 178 kg
OUTPUT	617 PS @ 10,250 rpm · 451 Nm @ 6,750 rpm · 11,100 rpm maximum · 14:1 compression
INDUCTION	Ram-air scoop · four throttle bodies · two injectors per cylinder · Direct Path Induction Sound
PERFORMANCE	557 PS per tonne · 208 mph · downforce 150 kg @ 150 mph, 312 kg at maximum
WEIGHT	1,108 kg dry · 18 kg over the coupe · iStream ultralight carbon monocoque
TRANSMISSION	Xtrac six-speed manual · H-pattern, open gate · limited-slip differential
CHASSIS	Double wishbones front and rear · carbon-ceramic brakes, 370 mm / 340 mm · forged aluminium, 19° & 20°
AERODYNAMICS	Ground effect · front and rear diffusers · passive boundary layer control · active rear element
DIMENSIONS	4,398 mm long · 1,850 wide · 1,135 high · 2,735 wheelbase · 75 L fuel · about 400 miles
BODY	Two-seat Spider · two removable roof panels · deployable rear window · right- or left-hand drive

UNMEASURED

Almost everything on this car carries a number. The bore is 81.5 millimetres, the compression is fourteen to one, the downforce is known to the kilogramme and the weight to the gramme. What the V12 sounds like at 11,100 was never written into the specification. It is the one thing here you will have to measure for yourself.

ENGINE ROOM

Concept page, written against the physics rather than the adjective. Gordon Murray Automotive's own page reaches for "cutting-edge" and "mechanically superior"; this one documents the intake, states 11,100, and lets the reader supply the word. Archetype: Creator surface over a quiet Magician engine, the authority Sage. The Cosworth commission, the bespoke V12, the gear-driven ancillaries, and the 1960s inspiration are sourced to Cosworth and named press; the 12,100 rpm record belongs to the T.50 and was kept off the T.33, which runs the same architecture as the GMA.2 at 11,100. Three of the working lexicons own examples were held back on veracity grounds: the gearbox mass, an unsourced number; "shear" at a front splitter the car does not have; and "isotropic" for a carbon laminate, which is anisotropic by design, so "torsional" was used instead. Burstiness 0.71 across 42 sentences, inside the long-form 0.70 to 0.80 band; long and short interleaved, not clumped. Speculative portfolio mockup, not commissioned by or affiliated with Gordon Murray Automotive; product photography and the GMA name © Gordon Murray Automotive, reproduced solely to show page design in context. Set in Archivio, Newsreader, and Spline Sans Mono. – Nathaniel Robertson, Three Lions English GbR.